

**Amendments to the Abstract**

Please replace the Abstract with the following Abstract:

A heater inspection apparatus including an applying unit, a current detector, a voltage detector, a temperature detector, a memory, a first calculating unit, a second calculating unit and a finding unit is provided. The applying unit applies an electrical power to a heater based on an AC power source. The current detector detects a current flowing through the heater. The voltage detector detects a voltage applied to the heater. The temperature detector detects a temperature of the heater. A temperature coefficient of resistance is stored in advance on the memory. The first calculating unit and the second calculating unit respectively calculate a resistance of the heater at an inspection time and a reference time. The finding unit finds a deterioration degree of the heater based on results of the first and second calculating units.

~~———To find the deterioration degree of a heater that heats a furnace. The present invention includes: a current detector 21 that detects a level of a current flowing through a heater 7 that is heated based on a commercial power source 1; a voltage detector 20 that detects a level of a voltage applied to the heater 7; a temperature detector 22 that detects a temperature of the heater 7; a table memory 14 on which a temperature coefficient of resistance for use in calculation of a resistance of the heater 7 at a time of manufacture is stored; and a CPU 17A that calculates a resistance of the heater 7 at an inspection time based on respective detection results by the voltage detector 20 and the current detector 21 and calculates the resistance of the heater 7 at a reference time based on a detection result by the temperature detector 22 and the temperature coefficient of resistance stored on the table memory 14, thereby finding the deterioration degree of the heater 7 based on the resistance of the heater 7 at the inspection time and the resistance of the heater 7 at the reference time.~~